

LOCTITE® SI 5913™

Known as LOCTITE® 5913™
July 2013

PRODUCT DESCRIPTION

LOCTITE® SI 5913™ provides the following product characteristics:

Technology	Silicone
Chemical Type	Oxime silicone
Appearance (uncured)	Grey paste
Components	One component - requires no mixing
Thixotropic	Reduced migration of liquid product after application to substrate
Cure	Room temperature vulcanizing (RTV)
Application	Sealing
Specific Benefit	Excellent resistance to automotive engine oils.

Typical applications include stamped sheet metal covers (timing covers and oil sumps) where good oil resistance and the ability to withstand high joint-movement is required.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Specific Gravity @ 20 °C 1.34

Extrusion Rate, g/min:
Pressure 0.6 MPa, temperature 25 °C:
3 mm Nozzle ≥300

Flash Point - See MSDS

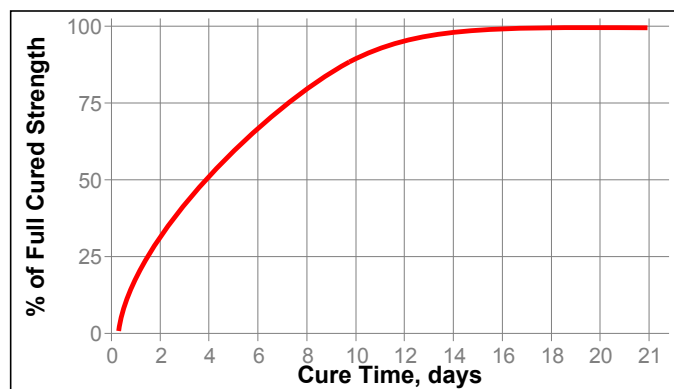
TYPICAL CURING PERFORMANCE

Surface Cure

Tack Free Time, minutes:
Cured @ 25 °C / 50±5 % RH ≤40

Cure Speed

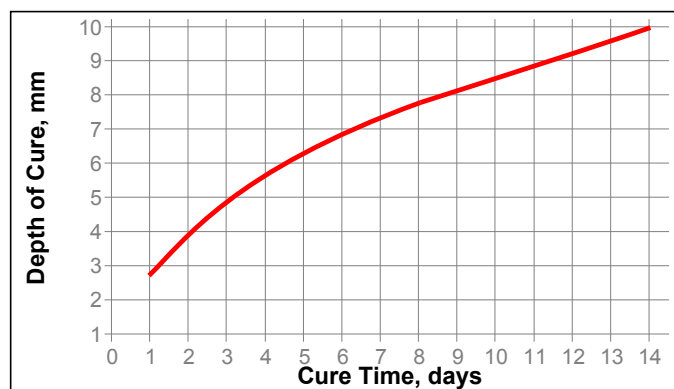
The graph below shows shear strength developed with time on Aluminum lapshears at a bond gap of 0.5 mm. Cure condition 23±2 °C, 60±5% RH. Strength is determined according to ISO 4587.



Depth of Cure

The depth of cure depends on temperature and humidity. Depth of cure was measured on strip pulled from a ramped PTFE mold (maximum depth 10 mm).

The graph below shows the increase in depth of cure with time at 23±2 °C / 50±5 % RH.



TYPICAL PROPERTIES OF CURED MATERIAL**Physical Properties:**

Tensile Strength, ISO 37	N/mm ² (psi)	≥1.7 (≥250)
Elongation, ISO 37, %		≥550
Shore Hardness, ISO 868, Durometer A		30

Electrical Properties:

Dielectric Constant / Dissipation Factor, IEC 60250:

1 kHz	4.53 / 0.019
100 kHz	4.09 / 0.009
1 MHz	4.05 / 0.008
10 MHz	4.08 / 0.017
Volume Resistivity, IEC 60093, Ω·cm	1.69×10 ¹⁴
Surface Resistivity, IEC 60093, Ω	2.81×10 ¹⁶

TYPICAL PERFORMANCE OF CURED MATERIAL**Adhesive Properties**

After 21 days @ 23 °C / 60±5% RH and 0.5 mm gap

Lap Shear Strength, ISO 4587:

Mild steel	N/mm ² (psi)	0.9 to 1.4 (130 to 200)
Aluminum 2024-T3	N/mm ² (psi)	0.6 to 1.4 (90 to 200)
Alclad	N/mm ² (psi)	1 to 1.6 (145 to 230)
Zinc dichromate	N/mm ² (psi)	1 to 1.6 (145 to 230)

TYPICAL ENVIRONMENTAL RESISTANCE

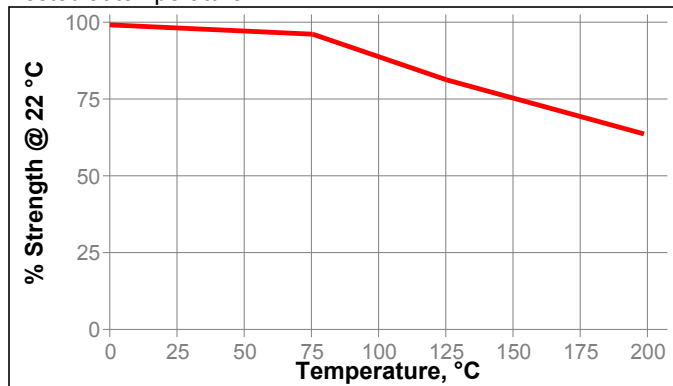
Cured for 21 days @ 23 °C / 60±5% RH

Lap Shear Strength, ISO 4587:

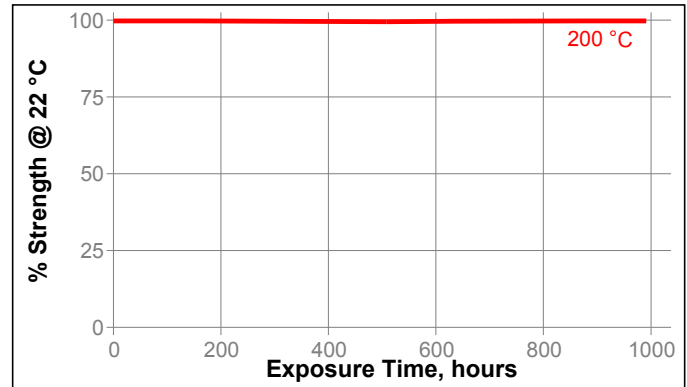
Alclad

Hot Strength

Tested at temperature

**Heat Aging**

Aged at temperature indicated and tested @ 22 °C

**Environmental Aging - Effect on bulk properties**

Cured for 21 days @ 23±2 °C / 60±5% RH, 2 mm thick film

Tensile strength, ISO 37, N/mm² (Elongation, at break, %):

Environment	100 h	500 h	1000 h
22 °C	1.7(700)	2.4(600)	1.9(560)
150 °C	2.2(400)	2.2(450)	2.3(470)
175 °C	2.2(380)	2.1(350)	1.4(330)
200 °C	2.2(370)	2.0(340)	1.4(300)
5W40 oil, 120 °C	1.9(520)	2.3(490)	2.1(590)
Motor oil, 150 °C	1.9(520)	1.8(450)	2.6(600)
Water/glycol	1.0(620)	0.6(540)	0.9(570)

GENERAL INFORMATION

This product is not recommended for use in pure oxygen and/or oxygen rich systems and should not be selected as a sealant for chlorine or other strong oxidizing materials.

For safe handling information on this product, consult the Material Safety Data Sheet (MSDS).

Directions for use:

1. For best performance bond surfaces should be clean and free from grease.
2. Moisture curing begins immediately after the product is exposed to the atmosphere, therefore parts to be assembled should be mated within a few minutes after the product is dispensed.
3. The bond should be allowed to cure (e.g. seven days), before subjecting to heavy service loads.
4. Excess material can be easily wiped away with non-polar solvents.

Not for product specifications

The technical data contained herein are intended as reference only. Please contact your local quality department for assistance and recommendations on specifications for this product.

Storage

Store product in the unopened container in a dry location. Storage information may be indicated on the product container labeling.

Optimal Storage: 8 °C to 21 °C. Storage below 8 °C or greater than 28 °C can adversely affect product properties.

Material removed from containers may be contaminated during use. Do not return product to the original container. Henkel Corporation cannot assume responsibility for product which has been contaminated or stored under conditions other than those previously indicated. If additional information is required, please contact your local Technical Service Center or Customer Service Representative.

Conversions

$(^{\circ}\text{C} \times 1.8) + 32 = ^{\circ}\text{F}$
 $\text{kV/mm} \times 25.4 = \text{V/mil}$
 $\text{mm} / 25.4 = \text{inches}$
 $\mu\text{m} / 25.4 = \text{mil}$
 $\text{N} \times 0.225 = \text{lb}$
 $\text{N/mm} \times 5.71 = \text{lb/in}$
 $\text{N/mm}^2 \times 145 = \text{psi}$
 $\text{MPa} \times 145 = \text{psi}$
 $\text{N}\cdot\text{m} \times 8.851 = \text{lb}\cdot\text{in}$
 $\text{N}\cdot\text{m} \times 0.738 = \text{lb}\cdot\text{ft}$
 $\text{N}\cdot\text{mm} \times 0.142 = \text{oz}\cdot\text{in}$
 $\text{mPa}\cdot\text{s} = \text{cP}$

Disclaimer

Note:

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Reference 0.1